AMENDMENTS TO THE SPECIFICATION:

Please amend the paragraph beginning at page 8, line 16, as follows:

Fig. 3 shows a possible implementation of a two-level system, i.e. a system in which M=2. This implementation uses a, supposedly ideal, transformer 302 having identical but oppositely connected secondary windings to generate the two carrier signals Vc(t) and -Vc(t), the transformer receiving on its primary side a voltage from a base generator generating a voltage vc(t). A first switch S1 is thus connected to an electric potential Vc(t) with respect to the ground, while a second switch SW2 is connected to an electric potential -Vc(t). The two switches are as above connected to the common output 206, which is connected to the input of the band-pass filter 208. The modulated RF signal SOUT from the filter 208 is used to feed the antenna 214. The digital signal SD from the quantifier 108, which has two levels indicating two different levels of the input signal, is provided to the control terminals of the two switches SW1 and SW2 of the switching unit 110. An inverting circuit 306 is connected in the output line from the quantifier 108 to the terminal of the second switch SW2. The digital signal SD thereby controls the switches in accordance with the value +1 or –1 of the digital signal. In the diagrams of Figs. 4a - 4c is shown that when the quantifier 108 outputs the logical value +1, the first switch SW1 is closed and the second switch SW2 is opened. When the quantifier outputs the logical level -1, the first switch SW1 is opened and the second switch SW2 is closed. A frequency divider 304 is connected to the output of the base generator connected to the primary side of the transformer 302 to provide a signal to the quantifier 108 controlling

A2 cont

the sampling frequency thereof. Thereby the carrier generation is synchronised with the sampling frequency fs of the quantifier. The synchronising is done to ensure that the switching events always take place at zero crossings of the carrier signal. In this embodiment, a two level system is described. A well known fact of sigma-delta modulators which can be used as the quantifier is that a two-level system is less sensitive to mismatches in the electronic components in the modulators. Thus, an amplitude error, e.g. in one or both of the two carrier amplitudes between which the switching is made, does not introduce any distortion. In a three- or many-level system, however, distortion is created by deviations of the carrier amplitudes, between which the switching is made, from the nominal values of the amplitudes.

A3 Cond

Please amend the paragraph beginning at page 9, line 17, as follows:

A3

If the carrier wave voltage is sinusoidal, the modulated digital signal S_D will be transposed so that a base-band frequency component of F_b will end up at F_c-F_b and F_c+F_b where F_c is the carrier frequency. The band-pass filter 208 placed after the forming of the switched signal S_{SW} is used for rejecting the unwanted side bands (either F_c-F_b or ~~F_c-F_b~~ F_c+F_b for all $F_{b\text{-}s}$ in the base band). The band-pass filter 208 also rejects the (frequency transposed) quantization noise from the quantifier 108.

Please amend the paragraph beginning at page 10, line 10, as follows:

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If the carrier is not sinusoidal and contains more than one frequency component, a replica of the modulated base-band signal will fall onto the band-pass filter. However, if all the frequency components of the carrier are integer multiples of the sampling

frequency of the quantifier, all these components are aligned so that a particular base-band frequency component will be mapped onto the same radio frequency for all the ~~replica~~ replicas. The carrier may contain both harmonics and sub-harmonics of its fundamental frequency as long as all of them are integer multiples of the sampling frequency of the quantifier, since this carrier will not create any distortion of the resulting RF signal.

A4 cont'd

Please amend the paragraph beginning at page 11, line 5, as follows:

In addition to solving the switching-transient problem, the switching units as described above also normally ~~gives~~ give a lower switching-frequency, i.e. the time interval between successive switching events is longer. It is equal to the output sampling frequency f_S of the quantifier 108, e.g. twice the base ~~band width~~ bandwidth times the oversampling ratio plus some guard interval, since in the switching units the mixing of the carrier wave and the information signal, the coded base band signal, takes place at the switching event.

A5